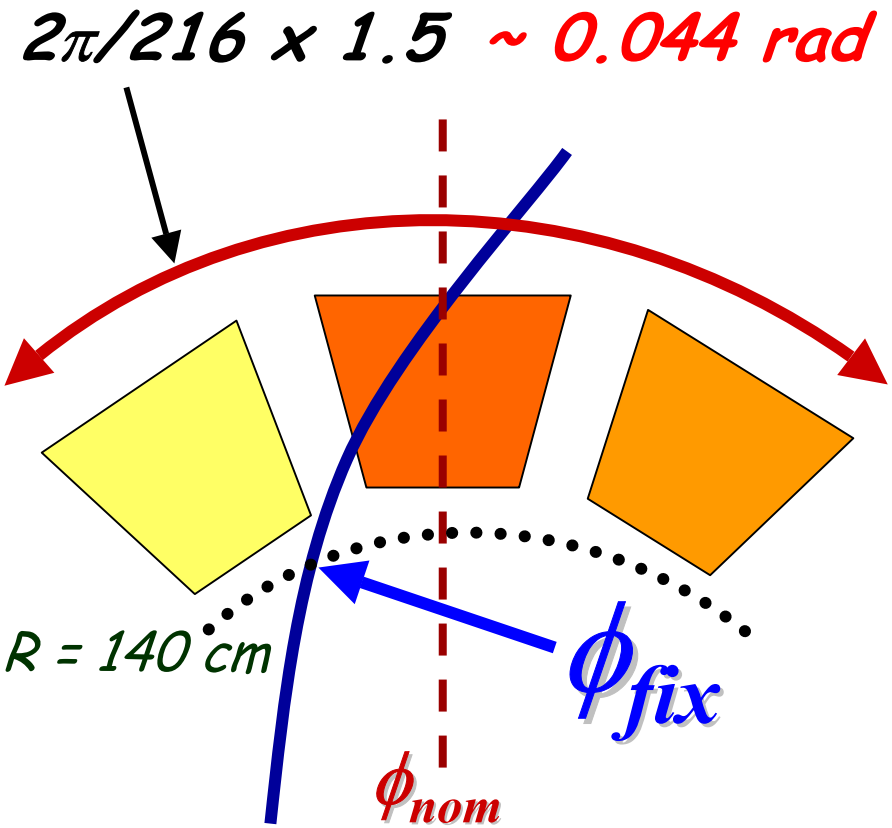
TOF alignment

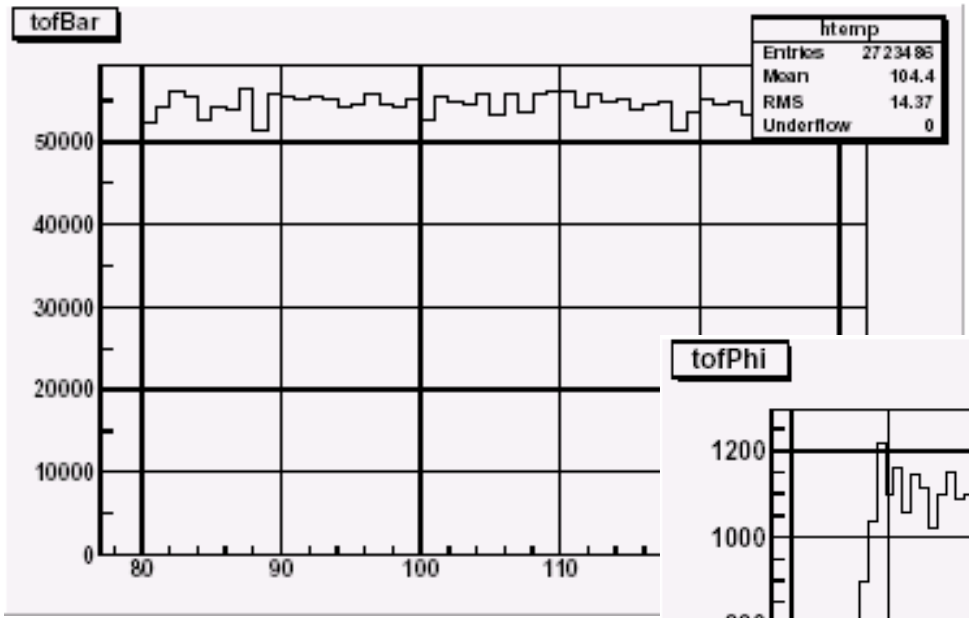
1. release 4.8.2
2. use TOFD + CdfTrack (L3) ONLY
3. no pt cut

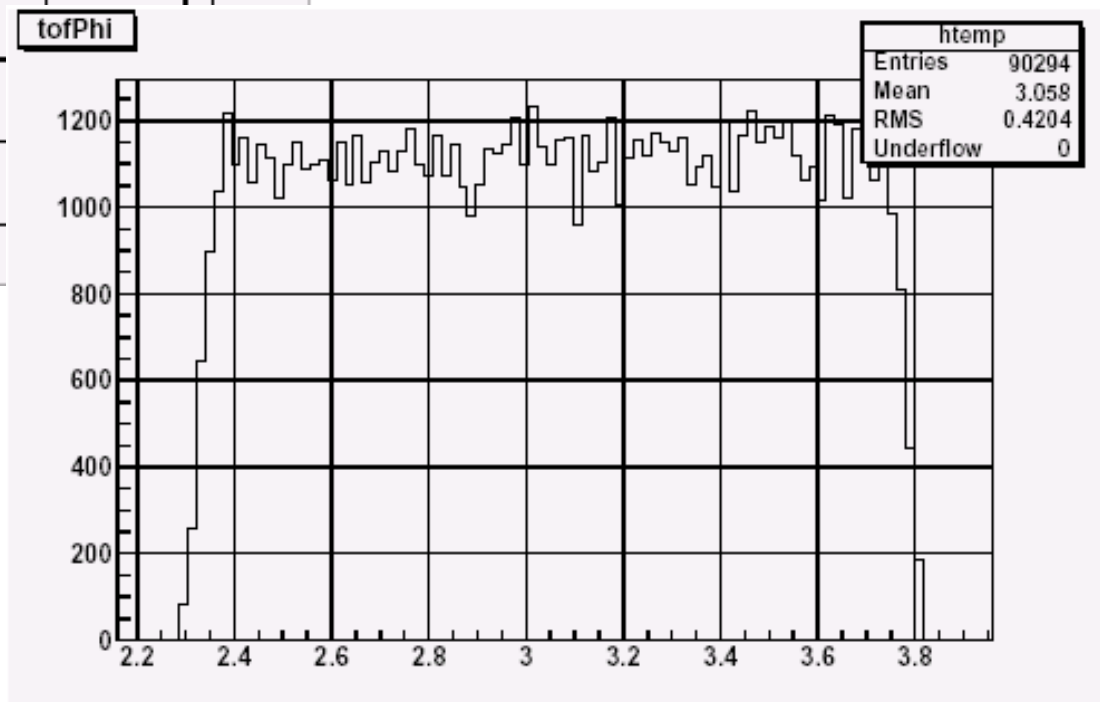
Algorithm



- Find TOF bar with 2 PMT (TDC counts >100)
- Calculate
  $\phi_{nom} = 2\pi (½ + i) / 216$
- Find ϕ range :
  $\pm$ 2π/216 x 1.5
- For all CdfTrack calculate ϕ_{fix} from Helix at R = 140 cm
- Save all CdfTracks within range

Bar & ϕ distributions are flat

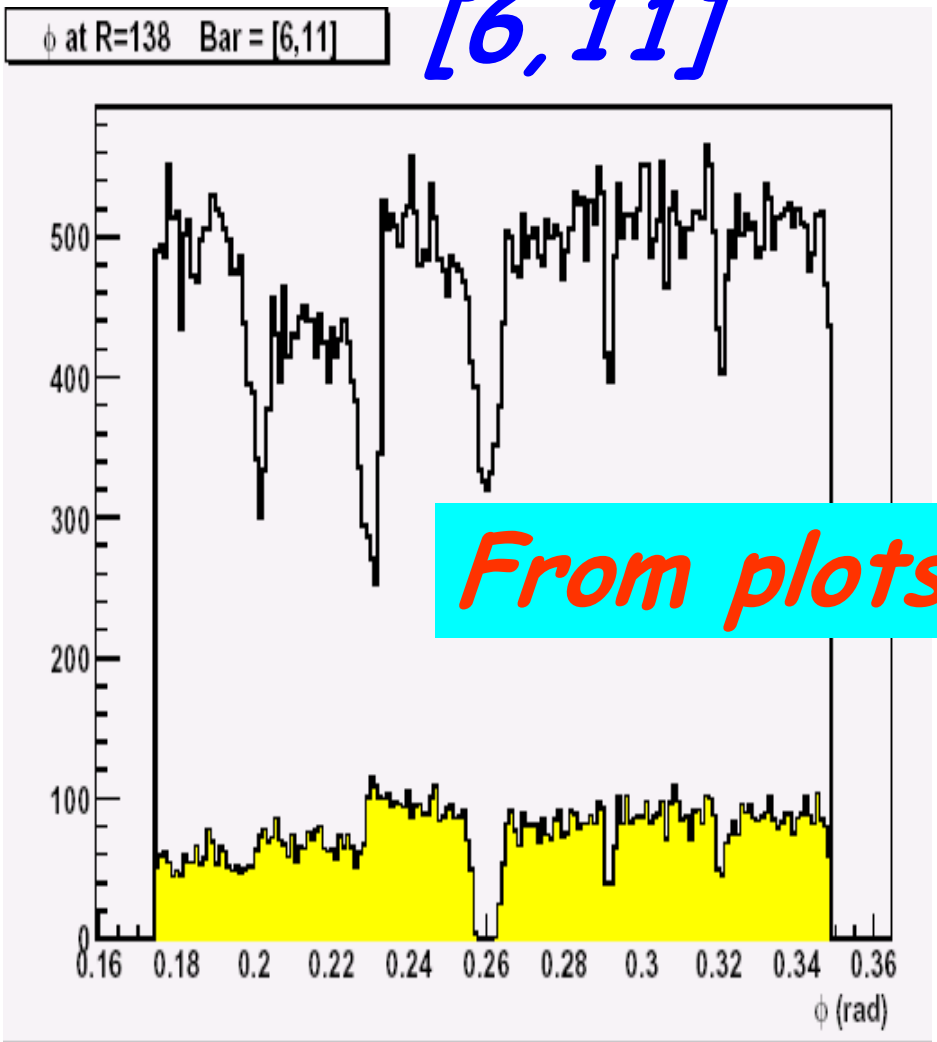




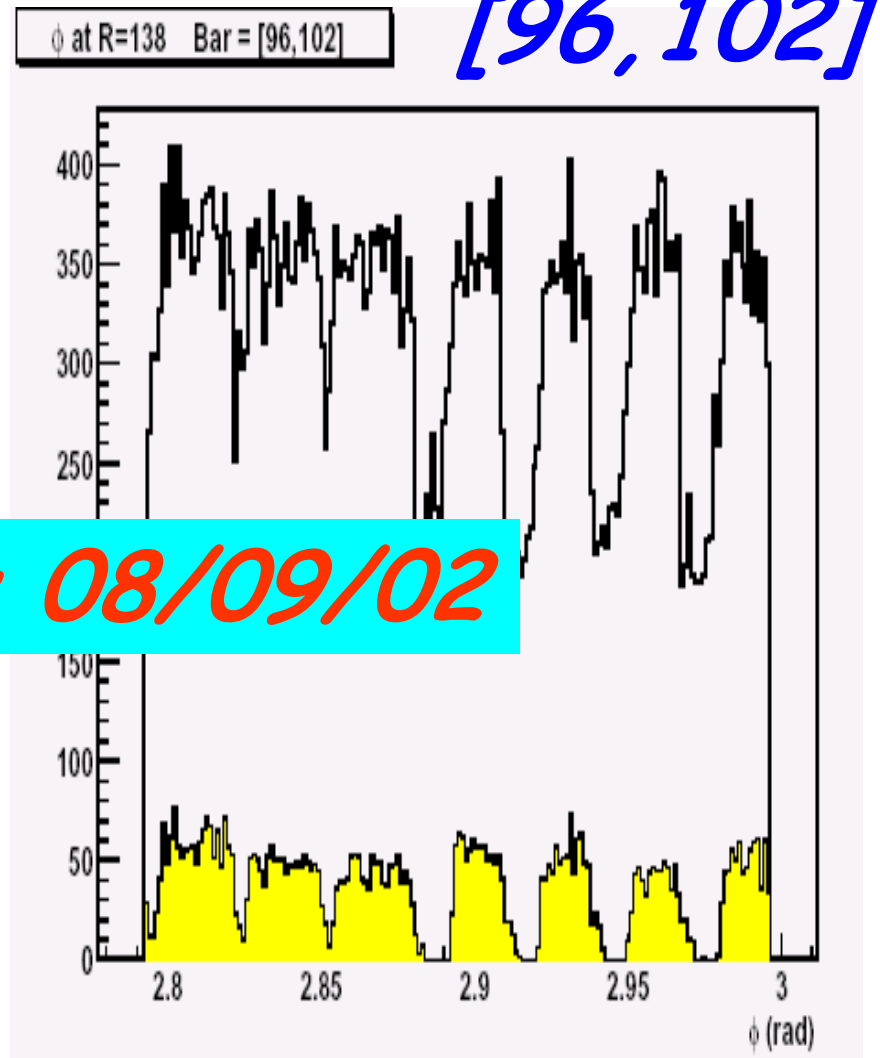
Bars [80, 130]

If we take CdfTracks with 2 PMT …

[6,11]

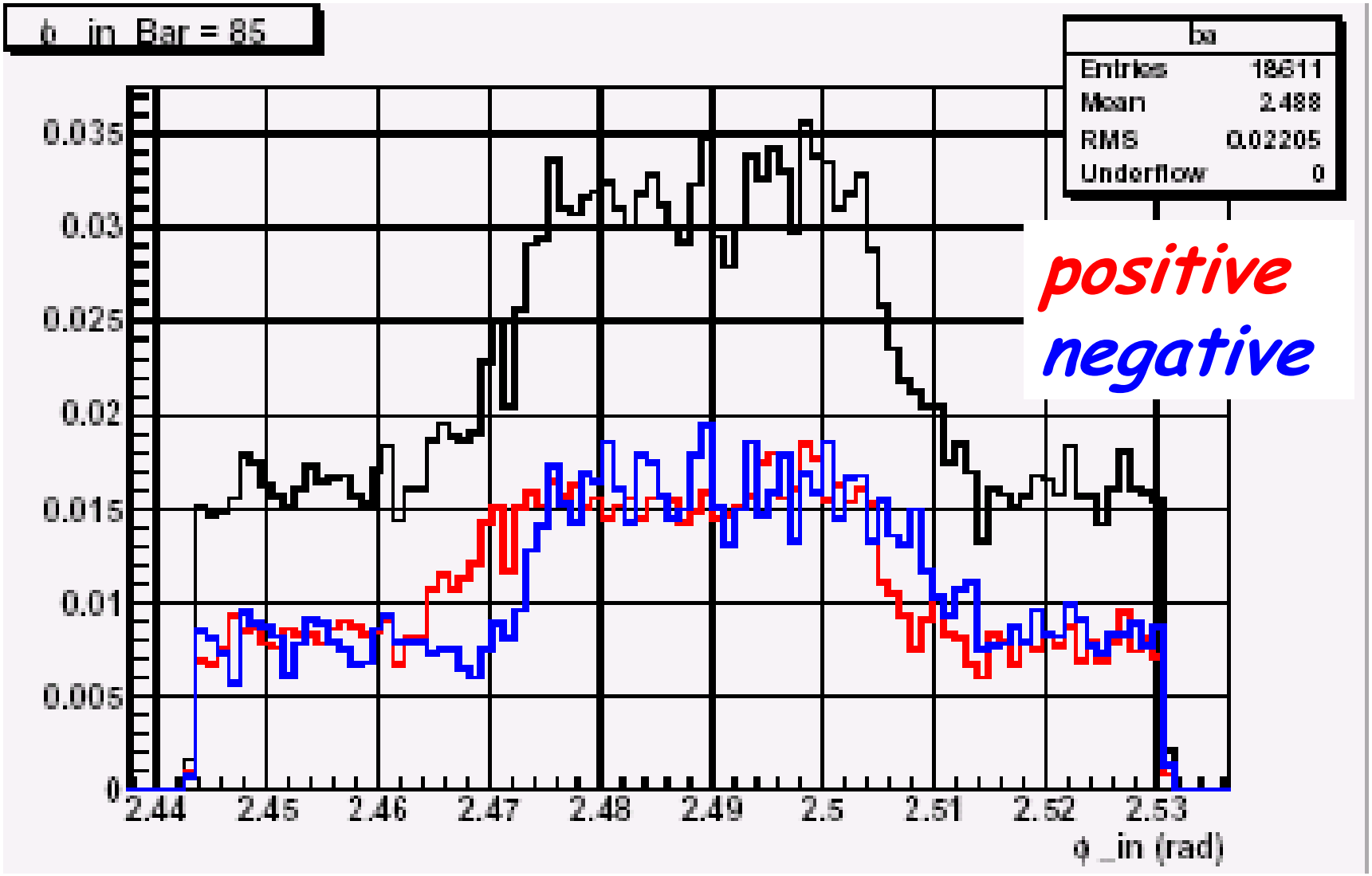


[96,102]

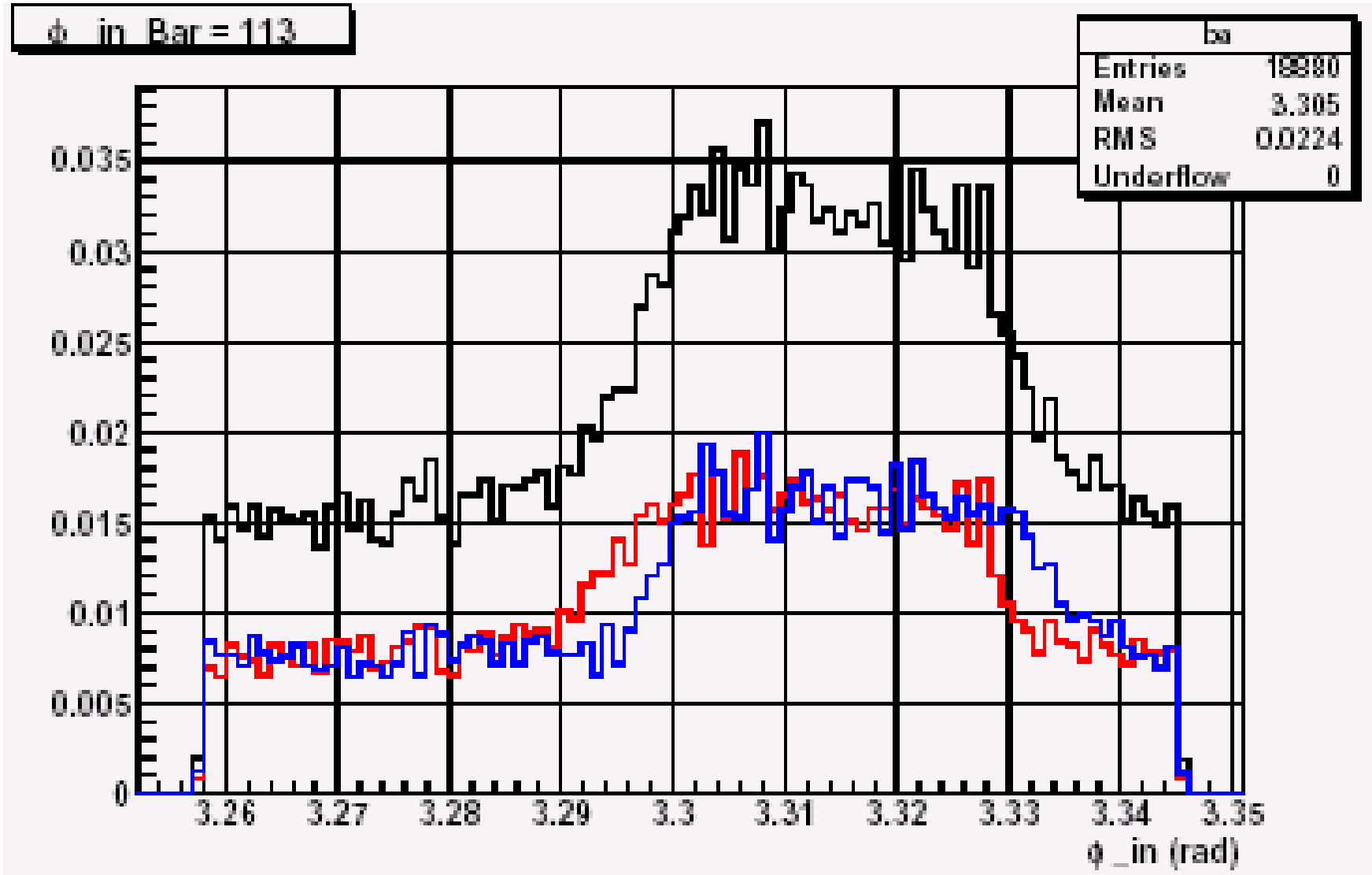


From plots 08/09/02

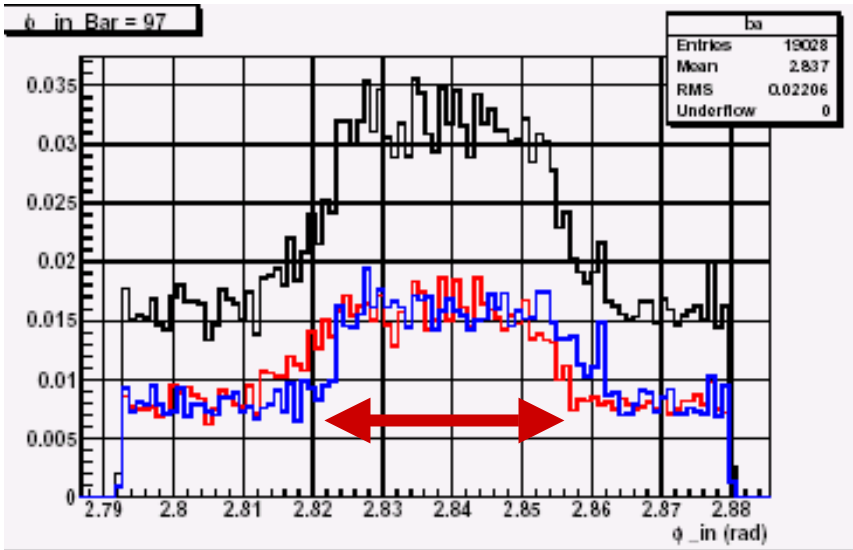
Bar 88

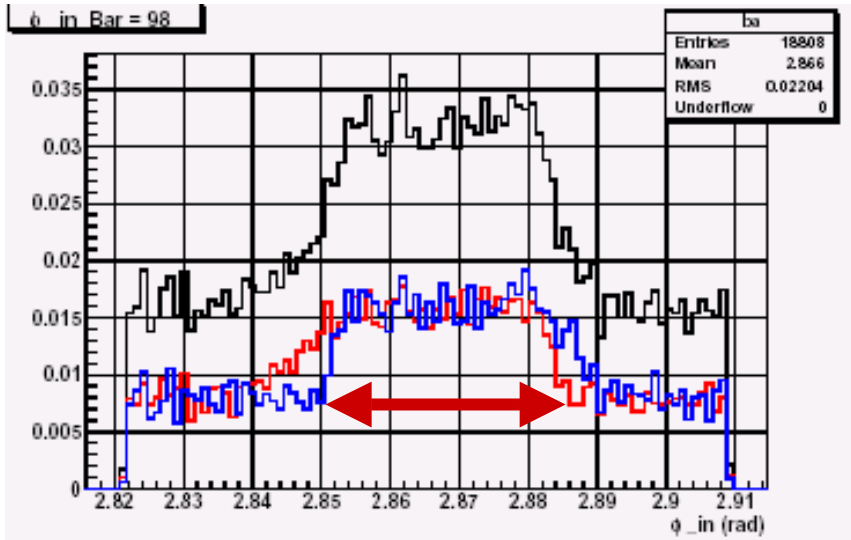

ϕ in Bar = 85
Entries 18611
Mean 2.488
RMS 0.02205
Underflow 0
positive
negative
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
2.44
2.45
2.46
2.47
2.48
2.49
2.5
2.51
2.52
2.53
ϕ _in (rad)

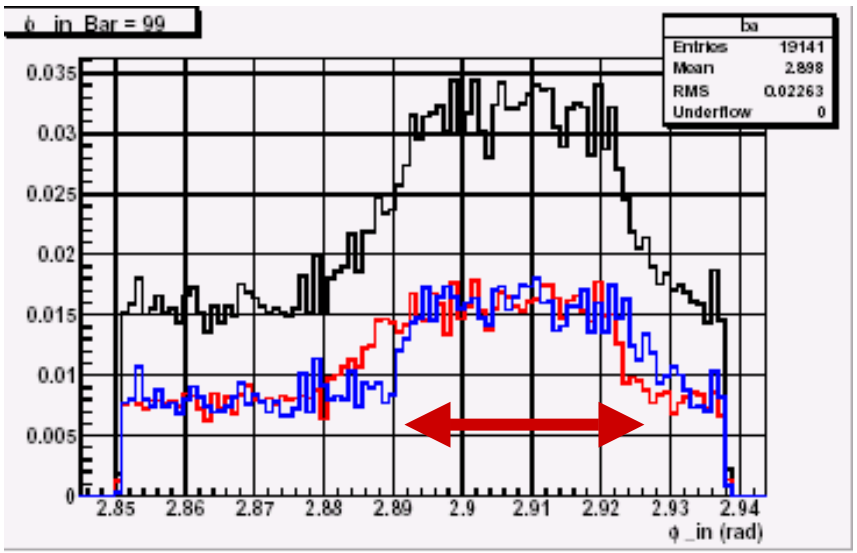
Bar 113


ϕ in Bar = 113
ba
Entries 19890
Mean 3.305
RMS 0.0224
Underflow 0
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
3.26
3.27
3.28
3.29
3.3
3.31
3.32
3.33
3.34
3.35
ϕ _in (rad)

Bars from 97 to 99

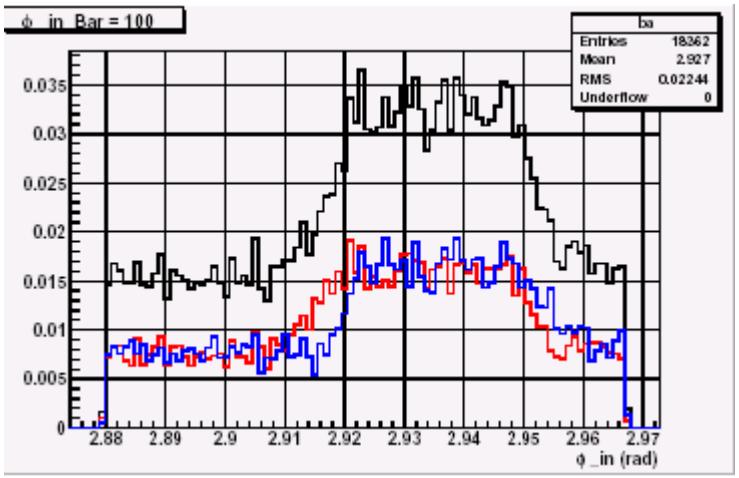


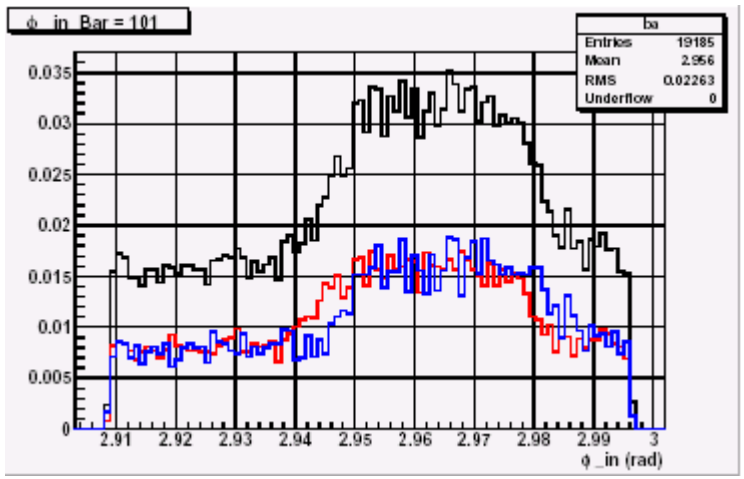


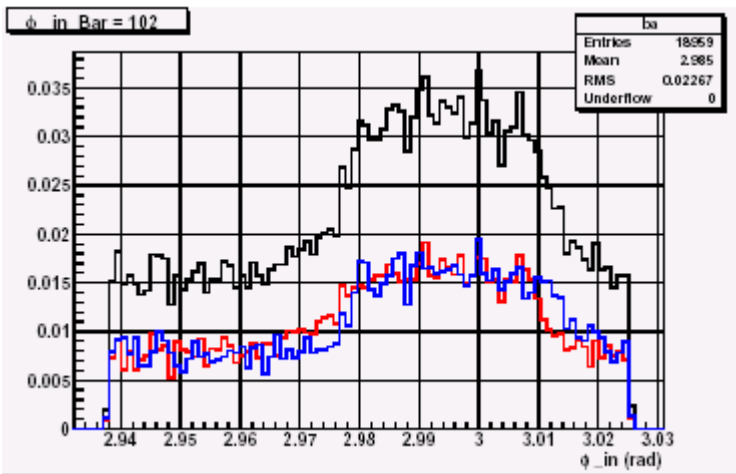


All have the same width ~ 0.03 rad

Bars 100 to 102

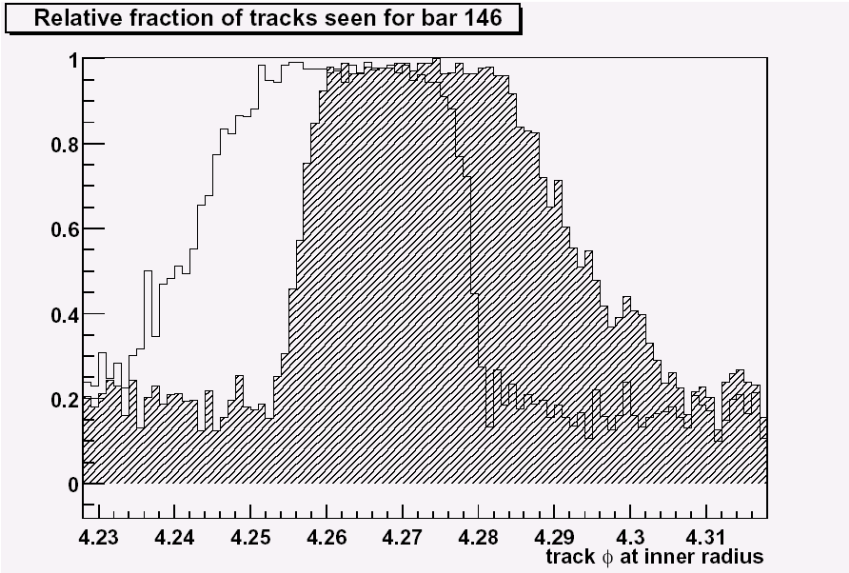






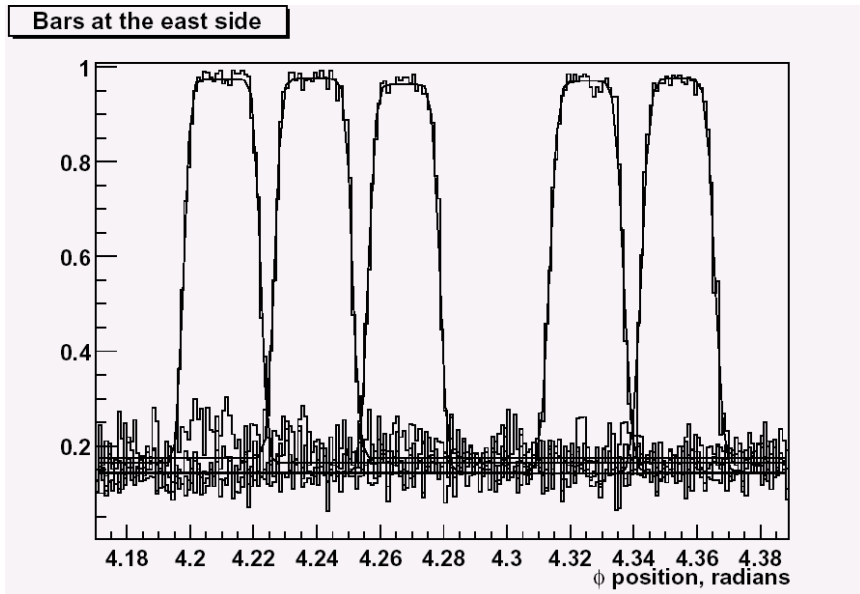
- *Accumulate more statistics*
- *Fit with sum of error functions*
- *Create new alignment table*
- *Check Z dependence*

What was done…



Denis Usynin,
TOF minutes from June, 21 2001

- *phi for positive tracks at an assumed R*
- *phi for negative & positive tracks*
- *the center of the bar is the averaged*



Aligned Geometry